

Ephemeris for finding the Positions of the Satellite of Neptune,
1881-82, By A. Marth, Esq.

P, angle of position of the minor axis of the satellite's apparent orbit, in the direction of superior conjunction.

a, *b*, major and minor semi-axis of the apparent orbit.

Long.=longitude of the satellite in its orbit, reckoned from the point which is in superior conjunction with the planet.

G. Noon.	P.	<i>a</i>	<i>b</i>	log. <i>a</i>	log. <i>b</i>	Long.	Diff.
1881.							
Sept. 6	315° 72	16'' 68	6'' 80	1·2222	0·8323	99° 65	612° 50
16	315° 64	16·76	6·82	·2243	·8336	352° 15	·44
26	315° 53	16·83	6·83	·2261	·8342	244° 59	·40
Oct. 6	315° 39	16·89	6·83	1·2276	0·8342	136° 99	·36
16	315° 23	16·93	6·81	·2288	·8334	29° 35	·33
26	315° 06	16·96	6·79	·2295	·8320	281° 68	·31
Nov. 5	314° 89	16·97	6·76	1·2298	0·8301	173° 99	·29
15	314° 71	16·97	6·72	·2296	·8275	66° 28	·29
25	314° 54	16·94	6·68	·2290	·8246	318° 57	·31
Dec. 5	314° 38	16·90	6·63	1·2279	0·8213	210° 88	·32
15	314° 25	16·84	6·57	·2264	·8178	103° 20	·34
25	314° 14	16·77	6·52	·2246	·8143	355° 56	·39
1882.							
Jan. 4	314° 06	16·69	6·47	1·2225	0·8109	247° 95	·44
14	314° 01	16·60	6·42	·2202	·8077	140° 39	·50
24	314° 00	16·51	6·38	·2177	·8049	32° 89	·54
Feb. 3	314° 02	16·41	6·35	1·2152	0·8025	285° 43	·60
13	314° 07	16·32	6·32	·2127	·8006	178° 03	·65
23	314° 16	16·23	6·30	·2103	·7993	70° 68	612° 71
Mar. 5	314° 29	16·14	6·29	1·2080	0·7986	323° 39	

These values are to be interpolated for the times for which the apparent places of the satellite are required, and the position-angles *p* and distances *s* are then found by

$$s \sin (P-p) = a \sin \text{long.}$$

$$s \cos (P-p) = b \cos \text{long.}$$

The satellite moves in the direction of decreasing position-angles, and will be at its greatest elongations ("nf." in posit. $P+90^\circ$ and distance *a*, "sf." in posit. $P-90^\circ$) and at its conjunctions ("sup." in posit. *P* and distance *b*, "inf." in posit. $P-180^\circ$) at the following hours, Gr. M. T. :—

June 1881.

Dr. Little, Note on his Paper etc.

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		"sp." Elong. h			"inf." Conj. h			"nf." Elong. h			"sup." Conj. h
1881, Sept.	5	20.2	Sept.	7	7.5	Sept.	8	18.7	Sept.	10	6.0
	11	17.3		13	4.5		14	15.8		16	3.1
	17	14.3		19	1.6		20	12.9		22	0.2
	23	11.4		24	22.7		26	10.0		27	21.2
	29	8.5		30	19.8	Oct.	2	7.0	Oct.	3	18.3
Oct.	5	5.6	Oct.	6	16.9		8	4.1		9	15.4
	11	2.7		12	13.9		14	1.2		15	12.5
	16	23.8		18	11.0		19	22.3		21	9.6
	22	20.9		24	8.1		25	19.4		27	6.7
	28	18.0		30	5.3		31	16.5	Nov.	2	3.8
Nov.	3	15.1	Nov.	5	2.4	Nov.	6	13.6		8	0.9
	9	12.2		10	23.5		12	10.7		13	22.0
	15	9.3		16	20.6		18	7.9		19	19.1
	21	6.4		22	17.7		24	5.0		25	16.2
	27	3.5		28	14.8		30	2.1	Dec.	1	13.3
Dec.	3	0.6	Dec.	4	11.9	Dec.	5	23.2		7	10.4
	8	21.7		10	9.0		11	20.3		13	7.5
	14	18.8		16	6.1		17	17.4		19	4.6
	20	15.9		22	3.2		23	14.5		25	1.7
	26	13.0		28	0.3		29	11.6		30	22.8
1882, Jan.	1	10.1	Jan.	2	21.4	Jan.	4	8.6	Jan.	5	19.9
	7	7.2		8	18.5		10	5.7		11	17.0
	13	4.3		14	15.5		16	2.8		17	14.1
	19	1.3		20	12.6		21	23.8		23	11.1
	24	22.4		26	9.6		27	20.9		29	8.2
	30	19.4	Feb.	1	6.7	Feb.	2	18.0	Feb.	4	5.2
Feb.	5	16.5		7	3.7		8	15.0		10	2.3
	11	13.5		13	0.8		14	12.0		15	23.3
	17	10.5		18	21.8		20	9.1		21	20.3
	23	7.6		24	18.8		26	6.1		27	17.3
March 1		4.6	March 2		15.8	March 4		3.1	March 5		14.3

In reference to his Paper, "Telegraphic Determination of the Longitude of Shanghai," *Monthly Notices*, December No. ante, pp. 64-67, Dr. L. S. Little writes:—

"The object and public use of the determination of the longitude of the Observatory was, that by it I determined the longitude of the British Consular Flagstaff, which is the point of departure of the charts, &c. This point is 18.02 E. of Observatory, and the only point in China determined telegraphically"